

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

Claims 3-7, 10-12 and 14 remain pending in this application.

New matter

The amendment filed on September 17, 2008, was objected to under 35 U.S.C. 132(a) as introducing new matter into the disclosure. Specifically, the Patent Office stated on page 2 of the Office Action: “The added material which is not supported by the original disclosure is as follows: ‘extending into the flat surface.’”

Applicants submit that the amendment to claim 4 in the amendment filed on September 17, 2008 to include the language “extending into the flat surface” is not new matter, and is supported by the original disclosure. Claim 4 recites “the groove . . . extending into the flat surface area.” This feature is supported by the original disclosure including Fig. 4B, which illustrates the groove 34, and the specification on page 8 which states “As shown in Fig. 4B, it is also possible to form circular grooves 34 on the surface of the nozzle 29 facing the workpiece 6.”

Moreover, a groove in a surface, by the nature of a groove, must extend into the surface. A groove is a cut or indentation in a surface. Such a cut or indentation necessarily extends into the surface. Thus, one of ordinary skill in the art would recognize that a groove in a surface necessarily extends into that surface, and the feature of claim 4 of “the groove . . . extending into the flat surface area” is fully supported by the original disclosure.

Rejections under 35 U.S.C. § 103

Claims 3-7 and 11-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,060,686 to Jones (hereafter “Jones”) in view of U.S. Patent No. 6,667,456 to Mukasa et al. (hereafter “Mukasa”) or WO 96/38358 to Szelagowski et al. (hereafter “Szelagowski”). Claim 14 stands rejected under 35 U.S.C. 103(a) as being

unpatentable over Jones and Mukasa or Szelagowski. Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Jones and Mukasa or Szelagowski, and further in view of U.S. Patent No. 3,632,955 to Cruickshank et al. (hereafter “Cruickshank”) or U.S. Patent No. 4,867,560 to Kunitsudu et al. (hereafter “Kunitsudu”). Applicants respectfully traverse these rejections for at least the following reasons.

As an initial matter, applicants note that the Patent Office, in its rejection under section 103, has failed to address the feature in claim 4 of “the groove having a trench shape extending into the flat surface area.” If the Examiner maintains the rejection of the claims under section 103, the Examiner is specifically requested to point out where this feature can be found in the references applied.

Moreover, because the Patent Office has failed to address the features in claim 4 in its rejection under section 103, applicants submit that the Office Action is incomplete (See MPEP 707.07 citing 37 CFR 1.104). While the Patent Office on page 5 of the Office Action states that Applicants’ arguments are directed to new matter, such an allegation of new matter is not an excuse for the Patent Office to ignore claim features when applying a rejection under section 103. Accordingly, applicants request that any next Action from the Patent Office, if not a Notice of Allowance, be made non-final.

Because the Patent Office has failed to address features in independent claim 4, applicants provide arguments below regarding the features of claim 4, which are substantially similar to those in the Amendment filed on September 17, 2008.

Claim 4 recites “wherein the nozzle has a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape extending into the flat surface area.” The Patent Office recognizes that Jones does not disclose a circular groove in its nozzle, but relies on Mukasa or Szelagowski for disclosing such a feature. Applicants respectfully disagree.

As noted in the Amendment filed on September 17, 2008, neither Mukasa nor Szelagowski discloses a groove having a trench shape on the flat surface area of a nozzle

facing a workpiece, where the groove extends into the flat surface area. Therefore, even if there were a proper reason to combine Mukasa or Szelagowski with Jones in the manner recited in the Office Action, which there is not, the combination would not have all the features of claim 4.

Mukasa discloses a laser welding apparatus with a nozzle 3 having a coaxial nozzle 6, a discharging nozzle 7, and an evacuating nozzle 8. None of the coaxial nozzle 6, discharging nozzle 7, or evacuating nozzle 8 of Mukasa, however, is a groove having a trench shape. Rather, the nozzles 6, 7 and 8 pass all the way through the nozzle 3, and thus do not have a trench shape.

Szelagowski discloses a device for welding including a disc-shaped nozzle arrangement 13 with a resilient seal 15 to be urged against a workpiece 16. The nozzle arrangement 13 also has a plurality of apertures 17 in the surface of the nozzle. Szelagowski, however, does not disclose as recited in claim 4, “a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape extending into the flat surface area.” The apertures 17, while arranged on a flat surface of the Szelagowski nozzle facing the workpiece 16, do not extend in a circumferential direction, nor do they have a trench shape. Moreover, the elements 22 in the Szelagowski device are part of the resilient seal 15, and are not arranged in the flat surface of the nozzle facing the workpiece, and thus even if the elements 22 could possibly be considered to form trench shaped grooves, such grooves would not be in the flat surface of the nozzle facing the workpiece, and such the grooves extend into the flat surface area as required in claim 4.

In sum, neither Szelagowski nor Mukasa discloses as recited in claim 4, “a circular groove extending in a circumferential direction on the flat surface area facing the workpiece, the groove having a trench shape extending into the flat surface area.” Thus, even if Jones were modified to include features from Szelagowski or Mukasa, the resultant structure would not have all the features of claim 4.

Moreover, it would not have been obvious to have modified Szelagowski or Mukasa to have the groove as recited in claim 4, where groove has a trench shape extending into the flat surface area of the nozzle. The intended function of the Mukasa device is such that the nozzles 6, 7, and 8 pass all the way through the nozzle 3 to provide a flow path, and modifying Mukasa to have its nozzles 6, 7 and 8 in a trench shape would have rendered the Mukasa device unfit for its intended purpose. Similar considerations are relevant to the apertures 17 of Szelagowski. Moreover, even if the elements 22 of Szelagowski could possibly be considered to form trench shaped grooves, such “grooves” are not intended to extend into a flat surface area of the nozzle of the nozzle arrangement 13 of Szelagowski, but are intended to be a part of the resilient seal 15.

Cruickshank and Kunitsudu were cited for disclosing other features of the claims, but fail to cure the deficiencies of Jones, Szelagowski and Mukasa.

The dependent claims are patentable for at least the same reasons as claim 4, from which they depend either directly or indirectly, as well as for further patentable features recited therein. For example, claim 14 recites the “groove has a cross section which is one of rectangular, triangular or semicircular.” This feature is not suggested by the references applied in the rejection, nor would it have been obvious to one skilled in the art based on the applied references.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.


The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect

information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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By



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